

ABSTRACT OF THE DISCLOSURE

***CACHE LINE CUT THROUGH OF LIMITED LIFE DATA
IN A DATA PROCESSING SYSTEM***

1 A method and apparatus for a cache line cut through reduces
2 the latency and memory bandwidth of a data processing system. By
3 cutting through or forwarding a cache line to the next processing
4 element, data that has been read from a local memory into a local
5 cache and altered by a processing element need not be restored to the
6 local memory before it is sent to its destination target processing
7 element. By eliminating the write back to the local memory for direct
8 write through to the destination, performance is increased because
9 the bandwidth and latency are decreased. In a preferred embodiment,
10 the processing elements may be contained within a network processor
11 and the altered data may be a header in one network protocol which
12 needs to be modified to another protocol before transfer of the data
13 along the network. Transfer of the data may be to another network
14 processor, another processing element, or to another memory.